Written Direct Testimony of Chad Kālepa Baybayan

Aloha, my name is Chad Kālepa Baybayan and I have served as Captain and Navigator of the Hawaiian deep-sea voyaging canoes Hokule'a, Hawai'iloa, and Hokūalaka'i. I am a graduate of UH Hilo's Ka Haka 'Ula O Ke'elikolani College of Hawaiian Language, and I hold a Master's degree in Education from Heritage College. I am a former employee of the 'Imiloa Astronomy Center of Hawai'i and am currently working on the Polynesian Voyaging Society's Mālama Honua World Wide Voyage.

I have worked with students and educators sharing the powerful story of the mariner explorers and astronomer navigators who settled these islands. Along with four other Hawaiian men, I was granted the rank of Pwo and inducted into a society of non-instrument master navigators in the Satawalese tradition, and extended the privilege to teach and pass on the skills, techniques, and values of the Oceanic Wayfinder. A copy of my curriculum vitae was submitted as Exhibit A-121.

My relationship with Maunakea is built upon the many occasions that this sacred mountain has led me back to my home and my family as a navigator aboard Hawai'i's deep-sea voyaging canoes. At night as you approach the Big Island, Maunakea rises out of the sea, its summit framed and warmed by a celestial blanket of stars. At sea, on a cloudless night, when peering at the awesome sight of Maunakea, the stars reach down out of the sky and touch the surface of the mountain, you begin to recognize that they are both the same, Maunakea and the sky. Maunakea is the celestial portal into the universe.

The wayfinding techniques used on board deep-sea voyaging canoes rely upon traditional methods of observing the stars, sensitizing one's body to the motion of the sea, and observing all the natural clues that surround you. Seafaring is but one of the many examples

that illustrate my ancestors' wisdom to adapt and use their knowledge and resources to survive; it manifests that body of knowledge into the fabric of the culture we know today.

As explorers, Hawaiians utilized island resources to sustain their communities. The slopes of Maunakea contain a record of how, for generations, a very adaptive and intelligent people utilized the mountain as a vital resource. They excavated the thin-aired slopes of Maunakea for high quality durable stone to produce the best set of Neolithic tools in the Pacific. The Maunakea adze quarry, the largest in the world, offers conclusive evidence that the ancients recognized the importance of Maunakea's rich resources and its ability to serve its community by producing the tools to sustain daily life. They ventured to Maunakea, reshaped the environment by quarrying rock, left behind evidence of their work, and took materials off the mountain to serve their communities, with the full consent and in the presence of their gods.

Using the resources on Maunakea as a tool to serve and benefit the community through astronomy is consistent with the example of the adze quarry. To value astronomy and its work on Maunakea, you have to value the importance of 'ike, knowledge, and its quest for a greater understanding of the universe we live in. Our ancestors were NO different; they sought knowledge from their environment, including the stars, to guide them and to give them a greater understanding of the universe that surrounded them. The science of astronomy helps us to advance human knowledge to the benefit of the community. It teaches us where we have come from, and where we are going. Its impact has been positive, introducing the young to the process of modern exploration and discovery, a process consistent with past traditional practices.

My perspective of Maunakea is based on a tradition of oceanic exploration and the

legacy of a people who left the safety of the coastline, sailed away, and in so doing, discovered the stars. As a Hawaiian, I recognize that I am a descendant of some of the best naked-eye astronomers the world has ever known. It is culturally consistent to advocate for Hawaiian participation in a field of science that continues to enable that tradition and a field of work in which we ought to lead. I firmly believe that the highest level of desecration rests in actions that remove the opportunity and choices from the kind of future our youth can own.

At times, the knowledge revealed from astronomical discoveries is frightening: of galaxies colliding, and black holes consuming all that comes close to them. However, the fearfulness of these discoveries should be viewed with an islander's perspective by recognizing our remoteness and vulnerability. As islanders, we are isolated, surrounded by a sea on all our horizons and only an ocean of stars overhead as a companion, but through careful stewardship and a willingness to adapt and learn we continue to survive. I recognize that our planet is part of the greater natural cycle of life and there is little that we can do to influence a future set amid a dynamic universe. The ultimate job of humanity must be to ensure that our planet lives a full and fruitful life. It is not science fiction to recognize that our future lies in the darkness of space somewhere among the stars that gave us life.

Astronomy must provide the answers to where our future will be and the challenges we will have to overcome to arrive there. In order for humanity to survive we will have to travel light-years, but each of us has only a lifetime to contribute to that effort.

When it is completed, the Thirty Meter Telescope on Maunakea will, with greater accuracy and speed, vastly increase the capacity for the kind of scientific research that is vital to the quest for mankind's future. The quest for knowledge on the summit of Maunakea is a sacred mission that takes place on a mountain considered "Sacred" by many; the Thirty Meter

Telescope project is consistent with the work of our ancestral forbearers and is done for the benefit of tomorrow's generations here in Hawai'i and across the globe.

Maunakea, like life, is sacred, and we need to proceed with the important work of ensuring our future. Let's look to Maunakea and continue a synergy of mountain, exploration, and stars.

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DATED: Kailua-Kona, Hawai'i, October 11, 2016.

Chad Kālepa Baykayan